Final script from "Adult Immunization Update" satellite broadcast, June 26, 2003.

Varicella segment.

The next vaccine recommended for some adults is varicella vaccine. Almost everyone is infected with varicella during childhood, so it is unusual in adults. But when adults do get varicella or chickenpox, it can be bad, and when it's bad, it's horrid. Adults are often infected by their unvaccinated children. Adults are 25 times more likely than children to die from varicella. Although adults make up only about 7% of varicella cases, they account for half of all varicella deaths. Of the 11 reported varicella related deaths in 2002, seven were adults.

Varicella vaccine is a live virus vaccine. It contains the Oka Merck strain of vaccine virus, named for the Japanese child from whom the virus was isolated, and the company that developed the U.S. vaccine. Vaccine efficacy has been estimated at up to 90% against infection, and 95% against severe disease. Vaccine efficacy estimated in clinical trials has been verified in investigations of varicella outbreaks. We know that the duration of immunity is at least 7-10 years, because that is how long the cohorts have been followed. Immunity is probably long lasting in the majority of vaccinees. Persons 13 years of age and older should receive two doses separated by 4-8 weeks.

All susceptible adults should be vaccinated with varicella vaccine. Adults with reliable personal histories of chickenpox can be assumed to be immune. Those without a reliable history can be considered to be susceptible, or they may be tested to determine varicella immunity. Epidemiologic and serologic studies indicate that more than 90% of adults are immune to varicella, including those who do not recall having had chickenpox. Assessment of varicella immunity and vaccination may be offered at the time of routine health care visits. However, specific assessment efforts should be focused on adults who are at highest risk of exposure, and those most likely to transmit varicella to others.

Varicella vaccination should be considered for susceptible persons who are at high risk of exposure to varicella, or at risk for severe illness from varicella. This group includes persons who live or work in environments where

there is a high likelihood of transmission of varicella, such as teachers of young children; day care workers; residents and staff in institutional settings, colleges, correctional facilities, or military bases. This also includes women of childbearing age who are not pregnant and international travelers.

Varicella vaccination is also recommended for susceptible adults who are likely to expose persons at high risk for severe illness. This group would include health care workers and susceptible family contacts of immunocompromised persons.

Varicella vaccine is usually very well tolerated. Significant adverse reactions are not common. The most common adverse reactions following varicella vaccine are local reactions such as pain, redness, and swelling. Based on information from the manufacturer's clinical trials of varicella vaccine, local reactions are reported by 24% following the first dose and 33% following the second dose. A generalized varicella-like rash is reported by 1% of adults after the second dose, with an average of 5 lesions. Most of these generalized rashes occur within three weeks and usually are maculopapular. Fever within 42 days of vaccination is reported by 10% of adults. The majority of these episodes of fever have been attributed to intercurrent illness rather than to the vaccine. Other systemic reactions are not common.

Varicella vaccine is a live virus vaccine, and may result in a latent infection, similar to that caused by wild varicella virus. Consequently, zoster- or shingles- caused by the vaccine virus has been reported, but mostly among vaccinated children. Not all these cases have been confirmed as having been caused by vaccine virus. The risk of zoster following vaccination appears to be less than that following infection with wild type virus. The majority of cases of zoster following vaccine have been mild and have not been associated with complications, including post-herpetic neuralgia.

The contraindications to varicella vaccine are almost identical to those for MMR - because they are both live injected vaccines. As with all vaccines, a severe allergic reaction to a vaccine component or following a prior dose of vaccine is a contraindication to further doses. Pregnancy and immunosuppression are also contraindications

to vaccination. The effect of varicella vaccine on a fetus is unknown, but is probably minimal, since even wild varicella poses only a small risk. ACIP and AAP recommend that women be advised to avoid pregnancy for one month after receiving varicella vaccine, even though the package insert suggests three months. Since it's licensure in 1995, varicella vaccine, like other live virus vaccines, has been contraindicated in persons with significant immunodeficiency from any cause. As a result, most immunocompromised persons should not be vaccinated. But available data indicate that varicella vaccine is both effective and safe in persons with isolated humoral immunodeficiency. This includes persons with hypogammaglobulinemia and other selective b cell immune deficiencies. Moderate or severe acute illness is a precaution. Vaccination should be deferred until the acute illness has resolved. Finally, recent receipt of a blood product could interfere with viral replication, so vaccination should be delayed at least 5 months following administration of blood, immune globulin, or other blood products.

One final note on varicella vaccine – ACIP does not recommend serologic testing after vaccination. Most commercial tests are not sensitive enough to detect antibody produced by vaccine. You should accept two documented doses of varicella vaccine as de facto evidence of immunity.

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